RECONNAISSANCE STUDY OF LANDFILL/SLUDGE LAGOON ZONE I WETLAND SYSTEM ROBINS AIR FORCE BASE

Environmental Protection Agency
Environmental Services Division
Ecological Support Branch
College Station Road
Athens, Georgia 30613-7799

1.0 Introduction

Staff of the Ecological Support Branch was requested by the Director of the Waste Management Division to assist in developing a definitive environmental assessment of the landfill/sludge lagoon NPL site located at Robins Air Force Base, Warner Robins, Georgia. To facilitate this reqeust, a reconnaissance survey of the forested wetland associated with the NPL site will be conducted during the period of April 1-6, 1991. Present concerns is that leachate originating from this site disperses to the adjacent wetland and potentially reaches Horse Creek, a primary tributary to the Ocmulgee River (Figure 1).

The purpose of this survey is to establish and map the boundaries of the leachate plume as it emerges and disperses through the surface waters of the wetland and identify prominent plant communities which may come into contact with potential contaminants of the plume. These findings will be used by contractors of the U.S. Air Force to plan a definitive environmental study to ascertain the ecological ramification of the NPL site and develop a baseline from which the effects of selected remedial actions can be monitored and assessed.

The EPA survey is to be funded via an Interagency Agreement (IAG) with the Air Force. Survey objectives are following:

- Develop an aerial map which defines the location of prominent plant communities and their principal plant taxa composition.
- Assess surface water quality of the wetlands and associative flow pathways and develop an aerial map depicting concentration gradients of selected water quality parameters.
- Evaluate the mapped concentration gradients to possibly determine the presence of leachate from the NPL site and depict boundaries of the leachate plume as it disperses in the surface waters of the wetland.

2.0 Survey Plan

The principal elements of this wetland assessment will involve a survey of transects originating with the landfill/sludge lagoon area and radiate across the adjacent wetland. Along each transect a survey team will conduct in situ measurements of selected water quality parameters and collect surface water grab samples for chemical and biological analyses to be conducted in a temporary laboratory established at the Robins Air Force Base. During the transect work, prominent vegetative taxa, surface flowpaths and depths will be noted. Horizontal control or positioning at each observation and sampling point will be tracked by portable Global Positioning

Systems (GPS) hardware. Principal surface water drainage discharging to the wetland will also be surveyed for the same water quality parameters established in the wetlands. Findings of the site observations and water quality measurements will be used to define concentration gradients and boundaries of prominent wetland plant communities in a scaled computer drawn aerial map of the wetland acreage. Details of the survey tasks are as follows.

3.0 Survey Tasks

3.1 Survey Transects

A scaled topographic map of the NPL site prepared by contractors to the U.S. Air Force will serve to define the initial boundaries of the survey area. Depending on site conditions at the time of study, the survey bvoundaries can be expanded. With the aid of aerial photographs of the site, transects will be selected for their representiveness of the topographic character and principal wetland communities of the survey site. Tentative location of the transects are shown in Figure 2. Primary discharge points of off-site drainage to the wetlands will be identified with collaboration with Air Force contractors prior to the survey.

3.2 Water Quality

Along each transect at approximately 300-foot intervals, water quality sampling will be conducted. This sampling will include in-situ measurement of dissolved oxygen, conductivity, pH, Redox and temperature. In addition, surface water grab samples will be obtained and returned to a portable lab facility where total chlorides, hardness, total ammonia and Microtox determinations will be conducted.

At primary surface water discharge points to the wetland system, water quality monitors will be installed and continuously operated during the survey period for the measurement of the same in-situ parameters identified above.

3.3 Wetland Plant Communities

From aerial photography, the boundaries of prominent wetland community types will be tentatively identified. During the transect work, these communities will be ground truthed. Where necessary, the ground truthing task will be expanded in order to establish an accurate aerial depiction of the wetland communities associated with the site.

3.4 Horizontal Control and Positioning

Field portable GPS units will be deployed with each survey team and used to determine geographic positioning at each location where observations are conducted. The longitude and latitude of each position will be logged.

3.5 Mapping

The basis for preparing the final survey will be the scaled topographic drawing and aerial photos of Section 3.1, findings of the water quality and ground truthing tasks of Sections 3.2 and 3.3, and the horizontal positioning data from Section 3.4. With the aid of a AUTOCAD graphic and digitizing program, scaled aerial maps of the surveyed site will be prepared to illustrate location and aerial extent of prominent wetland communities. Also scaled drawings will be prepared to illustrate concentration isopleths of the selected water quality parameters. From these maps the leachate plume configuration and relationship to existing prominent wetland communities will be assessed.

4.0 Quality Assurance

In situ determinations of water quality parameters and laboratory analyses will be accomplished with protocols established in Environmental Services Division Standard Operational Procedures. All probe calibrations will be subjected to quality checks during the course of their use in the survey. Operational status of the GPS units will be determined by use of known landmarks at the site and monitored during the survey. All grab samples will be collected in certified pre-clean containers.

5.0 Site Safety Plan

SAFETY PLAN

Site Name: WARNER ROBINS AFB Contact: COL. PETTIT OR
Address: HIGHWAY 129, MACON, GA MAJOR PADGET
Phone Number: (912)926-9777

Purpose of Site Visit: WETLAND AND WATER QUALITY EVALUATION

Proposed Date(s) of Work: APRIL 1-5, 1991
Directions to Site: 18 MILES SOUTH OF MACON OFF STATE HWY 129

Site Investigation Team:

Personnel*	Safety Category	Responsibilities**
MEL PARSONS	1	PROJECT LEADER/SAFETY
BRUCE PRUITT	1	SAMPLER
JIM MAUDSLEY	1	SAMPLER
TODD HARRIS	1	SAMPLER
PHYLLIS MEYER	2	SAMPLER

* All employees have been trained/medically monitored in accordance with OSHA 29 CFR 1910.12 requirements.

** Note: Site Safety Officer Designee.

Plan Preparation

Prepared by: MEL PARSONS Date 3-20-91

Reviewed/Approved by: _____ _____

OHSD-Athens: _____ _____

Site Status: _____ Active, ___X___ Inactive, _____ Unknown

EMERGENCY INFORMATION:

Local Resources:

Ambulance (Name): USAF HOSPITAL AMBULANCE Phone: (912)926-2333

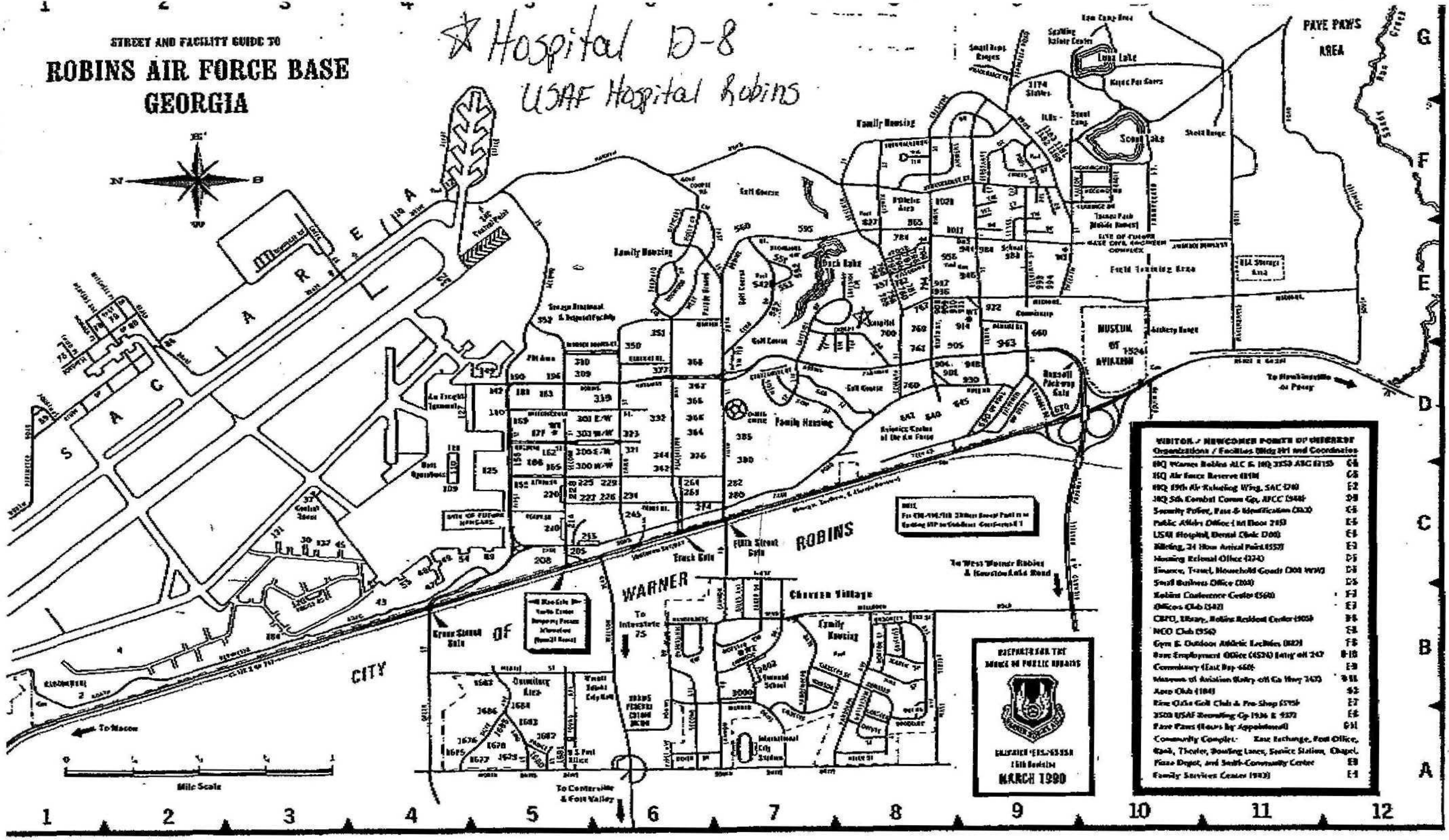
Hospital (Name): USAF HOSPITAL, ROBBINS Phone: (912)926-3845

Police (Local or State): _____ Phone: 911

Fire Department: _____ Phone: 911

STREET AND FACILITY GUIDE TO

ROBINS AIR FORCE BASE GEORGIA



STREET INDEX

Main Base	Coord:
AIRMENS DR.	F-8
APOLLO DR.	E-8
BACHELORS DR.	E-7
BONAIRE ST.	F-9
BYRON ST.	C-5
CENTERVILLE ST.	D-7
CHERRY CT.	E-7
CHERRY DR.	E-8
CHERRY TER./CIR.	E-8
CHIEFS CIRCLE	B-7
CHIEFS DR.	F-9
CLUB DR.	E-7
COCHRAN ST.	B-5
CRESCENT DR.	F-8
DOGWOOD DR.	E-6
EASTMAN ST.	D-6
EIGHTH ST.	F-8
ELEVENTH CIR.	F-9
ELEVENTH ST.	E-9
ELEVENTH TER./CT.	E-9
ELEVENTH DR.	E-9
FIFTH ST.	B-7
FIFTH TER.	B-7
FIRST ST.	C-5
FORT VALLEY ST.	F-9
FOURTEENTH ST.	E-10
GOLF COURSE DR.	F-6
HANNAH DR.	F-6
HAWKINSVILLE CT./CIR.	F-9
HAWKINSVILLE DR.	F-9
HAWKINSVILLE ST.	F-8
HAWKINSVILLE TER.	F-9
HOLLY DR.	E-6
KITTYHAWK RD.	E-8
LAKESIDE CIR.	E-8
LAKESIDE DR.	E-7
LAUNDRY DR.	B-8
MACON ST.	E-8/E-12
MARCHBANKS DR.	E-11
MILLEDGEVILLE ST.	B-5
NINTH ST.	E-8
NORTH PERIMETER RD.	B-3
OAK ST.	B-7
OFFICERS CIR. EAST	E-8
OFFICERS CIR. WEST	E-8
PAGE RD.	C-5/8-10
PEACEKEEPER WAY	B-5
PERRY ST.	C-6
PINE ST.	B-7
PISTOL RANGE RD.	G-8
POOL DR.	F-9
QM DR.	B-9
QM RD.	B-9
ROBINS PARKWAY	B-5/B-11
ROOSE RD.	B-3
SECOND ST.	C-5
SERGEANTS DR.	F-9
SEVENTH ST.	E-8
SIXTH ST. CIR.	B-7
SOUTH PERIMETER RD.	E-12
TECH RD.	B-8
TENTH CIR.	F-9
TENTH DR.	E-9
TENTH ST.	E-9
TENTH TER.	F-9
THIRD ST.	B-6
TWELFTH ST.	E-9
WARNER ROBINS ST.	B-5/E-11

Chevron Village	B-7
BROOKLEY AVE.	
BROOKLEY CT.	
CANNON RD.	
DOVER DR.	
EAKER DR.	
ENT ST.	
FIRST AVE.	
GILES AVE.	
GRIFFISS ST.	
HILL ST.	
HUDSON ST.	
KELLY ST.	
LANGLEY ST.	
LINWOOD DR.	
MARCH ST.	
McCLELLAN ST.	
NORSTAD CIR.	
NORTON ST.	
OFFUTT ST.	
OLMSTED ST.	
RANDOLPH AVE.	
ROBINS DR.	
SECOND AVE.	
TIBBETTS CIR.	
TIBBETTS ST.	
VANDENBERG BLVD.	
WARNER DR.	
WHITEHEAD CIR.	

SAC Area	E-3
ALERT CIR.	
BEALE DR.	
BLUNK DR.	
BORGHESE DR.	
CREEK CT.	
EAST DR.	
FOURTH PL.	
MERRENS AVE.	
MITCHELL PL.	
OCMULGEE DR.	
THIRD PL.	
WORKER PL.	

Turner Park	F-10
EAGLE DR.	
FALCON DR.	
FLAMINGO DR.	
MOCKINGBIRD DR.	
NIGHTINGALE DR.	

Dormitory Area	A-5
DUKE AVE.	
KING ST.	
PRINCE ST.	